

WHAT IS CLAIMED IS:

1. An intelligent sport device system for measurement of a swing, comprising:

a shaft;

electronic components inserted into the shaft, the electronic components comprising:

a plurality of accelerometers capable of producing linear acceleration measurements of the sports device in three (3) axes during a swing of the sport device;

a plurality of gyroscopes capable of producing angular rate measurements of the sports device in three (3) axes during the swing of the sport device; and

an RF transmitter for transmitting the linear acceleration measurements and the angular rate measurements;

a RF link box for receiving the transmissions of the linear acceleration measurements and the angular rate measurements from the RF transmitter;

logic coupled to the RF link box for transforming the linear acceleration measurements and the angular rate measurements into swing information corresponding to the swing of the sport device; and

a display for displaying the swing information.

2. The intelligent sport device system of claim 1, wherein the shaft is the shaft of a golf club.

3. The intelligent sport club system of claim 1, wherein the shaft is a joystick of a video game controller.

4. The intelligent sport device system of claim 1, wherein the shaft is the shaft of a racket.

5. The intelligent sport device system of claim 1, wherein the shaft is the shaft of a bat.

6. The intelligent sport device of claim 5, wherein the electronic components are mounted on a board such that the board and the original shaft and reinserted into a second shaft for producing and transmitting linear acceleration and angular rate measurements corresponding to the second shaft.

7. The intelligent sport device of claim 6, wherein the electronic components further comprise logic for determining whether the board and electronic components are inserted into the original shaft or the second shaft.

8. The intelligent sport device of claim 1, further comprising logic for marking the swing as a reference swing.

9. The intelligent sport device of claim 1, further comprising:

logic for transmitting the linear acceleration measurements and the angular rate measurements to a remote location; and

logic for receiving and displaying instruction from the remote location based upon the transmitted linear acceleration and angular rate measurements.

10. A method of sport instruction, comprising the steps of:

inserting electronic components into a shaft of a sports device;

generating, by the electronic components, linear acceleration measurements of the sports device in three (3) axes during a swing of the sport device;

generating, by the electronic components, angular rate measurements of the sports device in three (3) axes during the swing of the sport device;

transmitting the linear acceleration measurements and the angular rate measurements to an RF link box via a wireless connection;

transforming the linear acceleration measurements and the angular rate measurements into swing information corresponding to the swing of the sport device; and

displaying the swing information.

11. The method of sport instruction of claim 10, wherein the shaft is the shaft of a golf club.

12. The method of sport instruction of claim 10, wherein the shaft is the shaft of a racket.

13. The method of sport instruction of claim 12, wherein the racket is a tennis racket.

14. The method of sport instruction of claim 10, wherein the electronic components are mounted on a board such that the board and the electronic components may be removed from the shaft and reinserted into a second shaft for producing and transmitting linear acceleration and angular rate measurements corresponding to a swing of the second shaft.

15. The method of sport instruction of claim 14, further comprising the steps of:

determining whether the board and electronic components are inserted into the original shaft or the second shaft; and

transmitting information concerning whether the electronic components are inserted into the original shaft or the second shaft to the RF link box.

16. The method of sport instruction of claim 10, further comprising the steps of:

designating the swing a swing of interest.

17. The method of sport instruction of claim 10, further comprising the steps of:

transmitting the linear acceleration measurements and the angular rate measurements to a remote location;

receiving instruction information from the remote location based upon the transmitted linear acceleration and angular rate measurements; and  
displaying the instruction information.

18. An intelligent golf club for measurement and display of a swing, comprising:

a shaft;

electronic components, configured such that the electronic inserted into the shaft, the electronic components comprising:

a plurality of accelerometers capable of producing linear acceleration measurements of the golf club in three (3) axes during a swing of the golf club;

a plurality of gyroscopes capable of producing angular rate measurements of the golf club in three (3) axes during the swing of the golf club; and

an RF transmitter for transmitting information corresponding to the linear acceleration measurements and the angular rate measurements;

wherein the electronic components are configured to produce minimal impact on the weight, balance and ball impact characteristics of the golf club;

a RF link box for receiving the transmissions of the information corresponding to the linear acceleration measurements and the angular rate measurements from the RF transmitter;

logic coupled to the RF link box for transforming the information corresponding to the linear acceleration measurements and the angular rate measurements into swing information corresponding to the swing of the golf club; and

a display for displaying the swing information.

19. The golf club of claim 18, wherein the electronic components are mounted on a board such that the board and the electronic components may be removed from the shaft and reinserted into a second shaft corresponding to a second type of golf club for producing linear acceleration and angular rate measurements corresponding to the second shaft and transmitting information corresponding to the linear acceleration and angular rate measurements.

20. The golf club of claim 19, wherein the electronic components further comprise logic for determining whether the board and electronic components are inserted into the original shaft or the second shaft.

21. The golf club of claim 18, further comprising:  
logic for transmitting the linear acceleration measurements and the angular rate measurements to a remote location; and

logic for receiving and displaying instruction from the remote location based upon the transmitted linear acceleration and angular rate measurements.